

# Notice of Allowability

Application No.

09/926,084

Examiner

Yong D Pak

Applicant(s)

SYODA ET AL.

Art Unit

1652

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 1/12/2005.
2. ☒ The allowed claim(s) is/are 3-6 and 16-20.
3. ☒ The drawings filed on 27 August 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

- |                                                                                                                     |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)                                                    | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____.                                               |

### **DETAILED ACTION**

The amendment filed on December 21, 2004, amending claims 4-6 and canceling claims 1-2, 7-15 and 21-23, has been entered. The supplement amendment filed on January 12, 2005, amending the specification, has been entered.

Claims 3-6 and 16-20 are pending. Claims 3-6 and 16-20 are under consideration.

### ***Response to Arguments***

Applicant's amendment and arguments filed on December 21, 2004, have been fully considered and are deemed to be persuasive to overcome the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Shier on February 17, 2005. An email submitted on February 17, 2005, amending claims 3-4 and 6 and the specification has been incorporated into the instant Examiner's Amendment.

The application has been amended as follows:

**IN THE SPECIFICATION:**

Amend the paragraph beginning on page 32, line 18<sup>1</sup> of the original specification as follows:

The classification by Welinder et al. is based on the comparison of highly common sequences in the primary sequence of each peroxidase. In more detail, the classification is practiced by comparing the primary sequences around the His residue proximal to the heme iron and the His and Arg residues residue distal to the heme iron and the Arg residue. Using the sequence comparison table prepared by Welinder et al., the DyP sequence was compared (Fig. 4). Herein, Fig. 4 includes CCP (Saccharomyces cerevisiae-derived cytochrome C peroxidase) and ECP (E. coli-derived peroxidase) as Class I peroxidases. Comparison was done with ARP (Arthromyces ramosus-derived peroxidase), MnP (manganic peroxidase derived from a fungus of the genus Phanerochaete) and LiP (Phanerochaete chrysosporium-derived lignin peroxidase) as Class II peroxidases. Additionally, Class III peroxidase includes TP (Tunip peroxidase) and HRP (horse radish peroxidase).

Amend the paragraph beginning on page 33, line 9<sup>2</sup> of the original specification as follows:

---

<sup>1</sup> The only amendment to this paragraph appears at page 32, lines 22 and 23.

<sup>2</sup> The only amendment to this paragraph appears at page 33, line 10.

Art Unit: 1652

Because DyP is derived from the fungus, DyP is classified in Class II. However, it was shown that the ~~proximal~~ Arg residue (at the open square ( □ ) position in the figure) characteristically found in Class II was absent and no homology was found with the sequence in the proximity of the distal His residue (at closed circle ( ● ) position in the figure). This indicates that DyP as a fungus-derived peroxidase has a specific sequence.

**IN THE CLAIMS:**

Please replace claims 3-4 and 6 with the following amended claims.

3. An isolated gene polynucleotide having a DNA sequence of SEQ ID NO. 8.
4. An expression plasmid vector comprising the gene polynucleotide of claim 3.
6. A method for degrading and decolorizing a dye, comprising  
contacting said dye with a bacterium expressing a peroxidase enzyme encoded  
by the plasmid contained in Escherichia coli JM109/pYES92 FERM BP-7032  
with the wherein said dye is selected from the group consisting of an azo-  
containing dye, an anthraquinone-containing dye, and a phenolic compound; wherein  
said phenolic compound is selected from the group consisting of 2,6-dimethoxyphenol  
and guaiacol.

Art Unit: 1652

***Allowable Subject Matter***

Claims 3-6 and 16-20 are allowed.

The amendment filed on December 21 2004 satisfies the biological deposit requirements of the plasmid JM109/pYES92 FERM BP-7032.

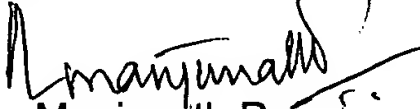
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 571-272-0935. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 571-272-0928. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Yong D. Pak  
Patent Examiner 1652

  
Manjunath Rao  
Primary Examiner